

SUnMaRC 2008
Southwestern Undergraduate Mathematics Research
Conference at Arizona State University

Friday, February 22, 2008

- 4:00 Registration Begins
- 4:15 Shuttle Pickup at ASU
- 6:15 Opening Remarks
- 6:30 Dinner
- 7:30 Invited Speaker
Edward Burger, Williams College
Zero to Infinity: Great Moments in the Evolution of Numbers
- 8:30 Announcements
- 9:00 Moderators Meeting & Faculty Meeting
- 9:15 Games
- 10:00 Shuttle to ASU

Saturday, February 23, 2008

- 7:00 Shuttle Pickup at ASU
- 7:15 Breakfast
- 8:30 Student Talks
 - Session 1
 - 8:30 Brendan Fry, University of Arizona
1. Insect Population Models
 - 8:55 Stephanie Williams, Arizona State University
2. An Ethanol Panacea? The Efficient Transition to Renewable Fuel
 - 9:20 Nicholas Tatonetti, Arizona State University
3. Software for the Optimization of Kinetic Rate Co-efficients
 - 9:45 Aaron Packer, Arizona State University & Angela McBryan, Arizona State University
4. Ecological Stoichiometry Applied to Algaculture Models
 - Session 2
 - 8:30 Micah Mangione, Arizona State University
5. Issac Newton Never Existed but Paul Erdos Did
 - 8:55 Sean Howe, University of Arizona
6. Bruhat Intervals in the Symmetric Group
 - 9:20 Christin Bibby, Northern Arizona University
7. Projective Geometry
 - 9:45 Jennifer Hale, Arizona State University
8. Carroll and Vennis Method of Solving Syllogisms: A History and Contrast
- 10:05 Morning Break
- 10:30 Invited Speaker
Michelle Zandieh, Arizona State University

Mathematical Reasoning and Proving: Insights from the Theory of Conceptual Blending

11:45 Lunch

1:00 Student Talks

Session 1

1:00 Russell Latterman, Arizona State University

9. Designing an Image Classifier for Automobiles

1:25 Liz Uribe, University of Arizona & Jeannie Walldren, Northern Arizona University

10. Solving Systems of Nonlinear Coupled PDE's using Newton's Method

Session 2

1:00 Thomas Dunn, Northern Arizona University

11. Critical Points of Complex Polynomials and Rational Functions

1:25 Haokun Xu, University of Arizona

12. The Constructive Inverse Galois Problem

2:00 Invited Speaker

Edward Burger, Williams College

How Always to Win at Limbo

3:00 Snack Break

3:30 Featured Student Talks

3:30 Ilyssa Summer, Arizona State University

13. Cancer Stem Cells

3:55 Crystal Diaz, Northern Arizona University

14. A Topological Proof of the Combinatorial Kneser Conjecture

4:45 Andreea Nicolae, Pomona College & Jordan Tirrell, Lafayette College

15. Nested Chain Partitions of Normalized-Matching Posets

5:15 Shuttle to ASU

6:00 Dinner

7:00 Bowling, Pool and Games

Sunday, February 24, 2008

7:00 Shuttle Pickup at ASU

7:15 Breakfast

8:15 Student Talks

Session 1

8:15 Jaime Ramos, University of Texas, El Paso

16. Electrical Network Mixed Problems

8:40 Jasmin Uribe, University of Arizona

17. Permutations in Concatenated Zigzag Codes

9:05 Amanda Townsend, University of New Mexico

18. Mathematical Modeling of Nonlinear Optics in Waveguide Arrays

Session 2

8:15 Tatiana Moyer, Arizona State University

19. Pebbling Balloon Animals

8:40 Taylor Hines, Arizona State University

20. On Near-UCycles for Subsets

9:05 Alan Hogan, Arizona State University

21. *Efficient Means of Finding Hamiltonian Circuits*

9:30 Morning Break

9:45 Invited Speaker

Eric Kostelich, Arizona State University

Uncertain Determinism

11:00 Shuttle to MCC

11:15 Lunch and Play

1:00 Shuttle and Goodbye